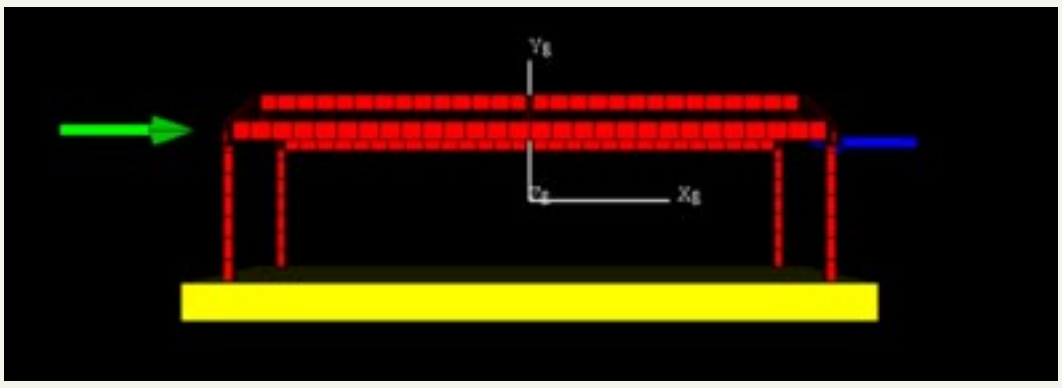
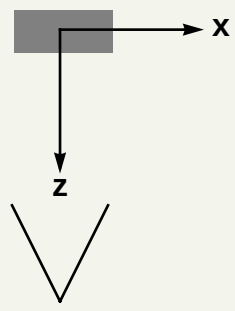
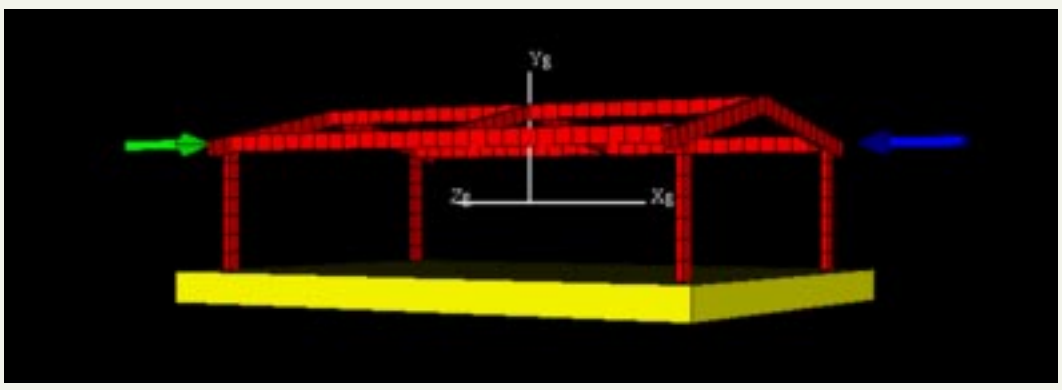
Introduction

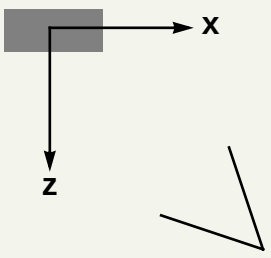
In addition to providing control over model manipulations, EnSight also provides control over the virtual camera used to view the scene in the Graphics Window. The two control parameters are the *look-from* point (the position of the camera) and the *look-at* point (a point on the camera's line-of-sight vector). The Global Axis is positioned at the look-at point and is always in the center of the Graphics Window.

Initially, the look-at point is set to the geometric center of all visible objects and the look-from point is set to a point on the positive Z axis such that all visible objects fit in the Graphics Window (as shown in the top image below). The white axis triad is the Global Axis and can be displayed by selecting View > Axis Visibility > Axis - Global. The bottom image shows the view after the look-from point has been repositioned between the X and Z axes. The diagrams to the right of each image show a top-down schematic of each viewing case.









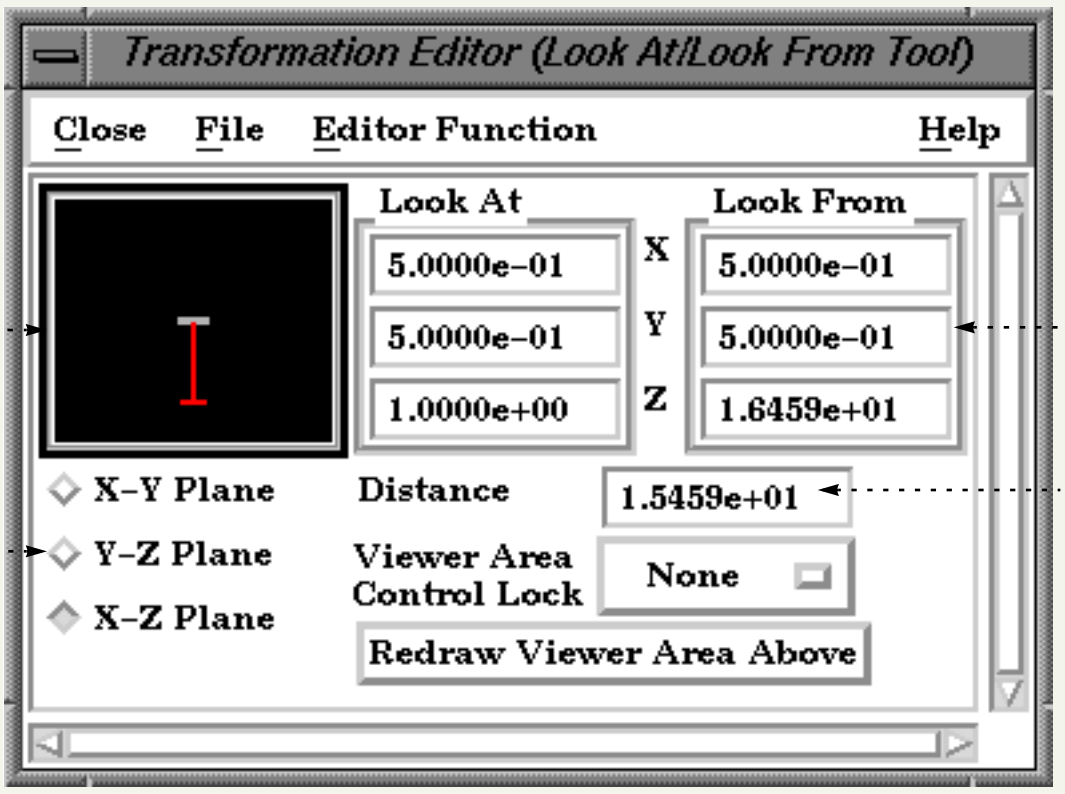
Basic Operation

The look-from, look-at points are controlled via the Transformation Editor dialog.

1. Click Edit Exact in the Transformation Control Area.

2. Select Editor Function > Look At/Look From.

Set LookFrom / LookAt



Viewer Area for interactive manipulation

Viewer Area plane toggles

Text fields for entering numeric values

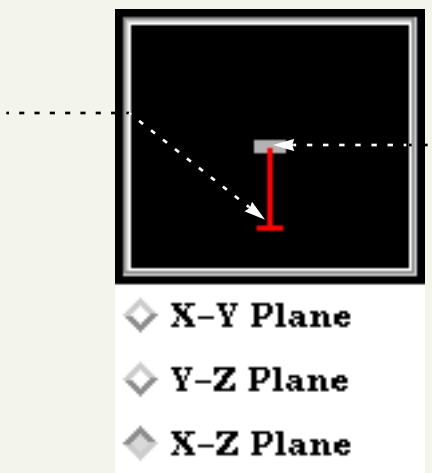
Text field for moving look-from by setting an explicit distance

The Transformation Editor dialog provides two methods for setting the look-at and look-from points. Numeric values can be entered directly into the X,Y,Z Look At, Look From text fields (remember to press return). You can also enter a value in the Distance field to explicitly move the look-from point a certain distance away from the look-at point.

Alternately, the Viewer Area can be used to interactively manipulate the points. The presentation of the Viewer Area depends on the which plane toggle is set: X-Y (view from the positive Z axis), Y-Z (view from the positive X axis), or X-Z (view from the positive Y axis – the default). In each case, the gray box represents the extent of all visible parts. The intersection of the two red lines is the look-from point. The opposite end of the long red line is the look-at point (which is initially near the center of the gray box). The example below shows the X-Z Plane presentation, the others behave analogously.

To change the look-from point:

1. **Place the mouse pointer over the intersection of the two red lines.**
2. **Click and drag to the desired location. Note that the Graphics Window updates as the look-from point is moved.**



To change the look-at point:

1. **Place the mouse pointer over the free end-point of the long red line.**
2. **Click and drag to the desired location. Note that the Graphics Window updates as the look-from point is moved.**

During your manipulation, the display in the View Area may become difficult to use. Click the “Redraw Viewer Area Above” button to rescale the display.

The Viewer Area Control Lock pulldown menu effects interactive operation in the Viewer Area as follows:

None	No constraints are placed on movement of either the look-from point or the look-at point.
Distance	Movement of the look-from (look-at) point is restricted to a circle whose radius is the current Distance value and whose center is the look-at (look-from) point.
Together	The movement of both points is locked such that movements applied to one are applied to the other.

You can easily reset the look-from and look-at points such that all currently visible parts are displayed. Click Reset... in the Transformation Control area to open the Reset Tools and Viewports dialog. Click the Reinitialize button to reset the currently selected viewports.

Other Notes

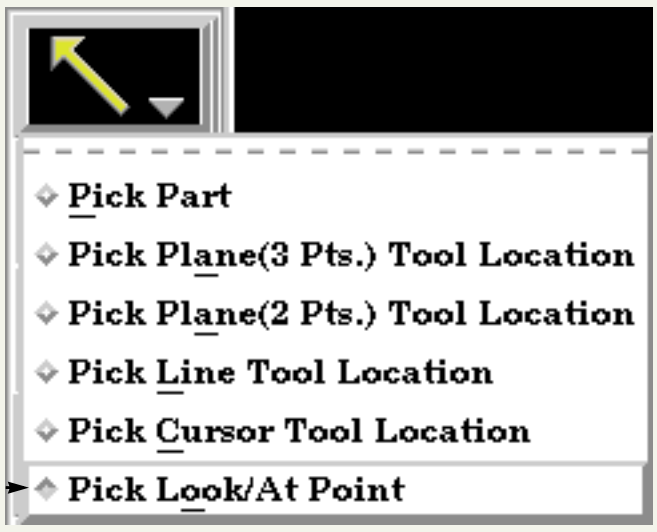
You can also set the look-at point by picking an object with the mouse in the Graphics Window:

1. **Click Reinit VPort in the Transformations Control area to clear all global transformations.**

2. **Click Part in the Mode Selection area to enter Part Mode.**

3. **Select Pick Look/At Point from the Pick Pulldown icon.**

4. **Move the mouse into the Graphics Window. Place the mouse pointer over the point you wish to set to the look-at point and press the 'p' key.**



Other camera parameters, such as the camera up direction and the field-of-view angle, cannot be set in this release.

See Also

How To Define and Change Viewports.

User Manual: **Look At/Look From**